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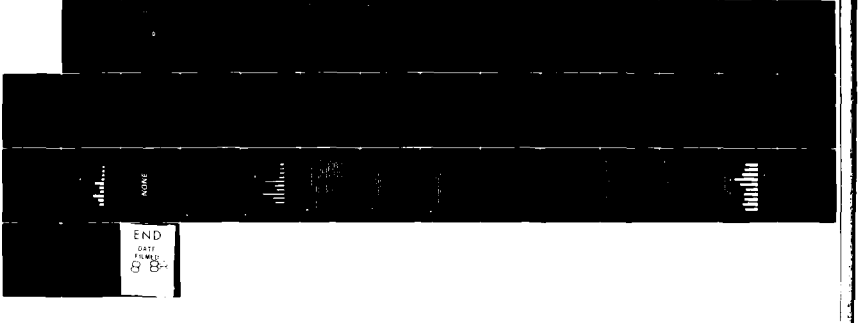

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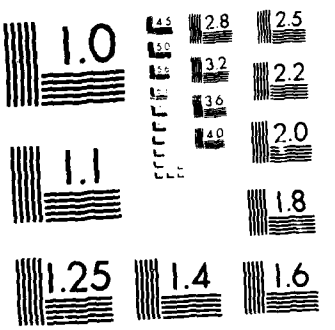

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U.S Department
of Transportation
Federal Aviation Administration

Semiannual Report to Congress on the Effectiveness of The Civil Aviation Security Program

July 1, 1987-December 31, 1987

Washington, D.C. 20591 June 1988

Report of the Administrator
of the Federal Aviation Administration
to the United States Congress
pursuant to Section 315(a)
of the Federal Aviation Act
of 1958

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15. Supplementary Notes

This report is required by Section 325(a) of the Federal Aviation Act of 1958.

16. Abstract

The report includes an analysis of the current threat against civil aviation along with information regarding hijacking attempts, security incidents, bomb threats, and passenger screening activity. It also summarizes ongoing activities to assure adequate protection of civil air commerce against hijacking/sabotage and related crimes, and other aspects of the Civil Aviation Security Program.

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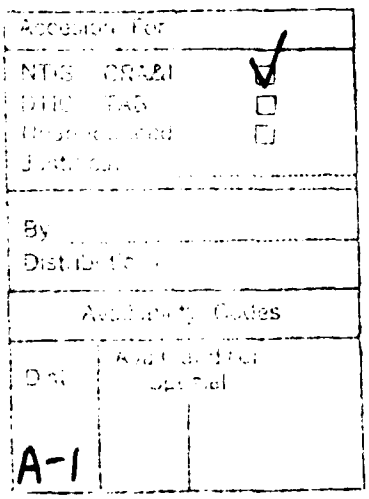

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U.S. Department of Transportation
Federal Aviation Administration

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

JUN 24 1988

The Honorable Jim Wright
Speaker of the House of Representatives
Washington, DC 20515

Dear Mr. Speaker:

I am forwarding the Federal Aviation Administration's (FAA) Semiannual Report to Congress on the Effectiveness of the Civil Aviation Security Program. It covers the period July 1, 1987, through December 31, 1987, and is submitted in accordance with section 315(a) of the Federal Aviation Act of 1958, as amended.

During this reporting period, there were no hijackings of scheduled U.S. air carriers. However, there was an incident involving a disgruntled former USAir employee who bypassed passenger screening and is believed to have caused the fatal crash of Pacific Southwest Airlines Flight No. 1771 through the use of a firearm. There were no survivors. There were five foreign air carrier hijackings during this reporting period. The downward trend in hijackings indicates that heightened security procedures have materially contributed to the protection of air travelers.

We continued to assign Federal Air Marshal teams to U.S. air carriers on selected flights operating in especially sensitive or threatened areas throughout the world. During this reporting period, Federal Air Marshals flew over 3,960,000 nautical miles during these missions. Civil Aviation Security Special Agents also conducted 97 assessments of foreign airports pursuant to the International Security and Development Cooperation Act of 1985 (Public Law 99-83). Furthermore, the FAA has continued its implementation and oversight of the recommendations of the Secretary's Safety Review Task Force that are designed to improve domestic aviation security policies and practices.

While the civil aviation security procedures presently in effect worldwide have been highly successful, the FAA will continue to monitor aviation security practices closely and modify, as necessary, those aspects of the system critical to the protection of U.S. citizens traveling in air commerce.

This report has also been sent to the President of the Senate.

Sincerely,

T. Allan McArtor
Administrator

Enclosure

U.S. Department
of Transportation
Federal Aviation
Administration

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

JUN 24 1988

The Honorable George Bush
President of the Senate
Washington, DC 20510

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T. Allan McArtor
Administrator

Enclosure

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EXHIBITS

I. EXECUTIVE HIGHLIGHTS

1. THIS REPORT COVERS THE PERIOD JULY 1, 1987 - DECEMBER 31, 1987.

2. OVER 546 MILLION PERSONS WERE PROCESSED THROUGH U.S. PASSENGER CHECKPOINTS. THERE WERE 1,607 FIREARMS AND 9 EXPLOSIVE/INCENDIARY DEVICES DETECTED WITH 847 RELATED ARRESTS.

3. WORLDWIDE, FIVE HIJACKINGS OCCURRED AGAINST SCHEDULED AIR CARRIERS. NONE OF THESE INVOLVED U.S. AIRLINES.

4. THERE WAS ONE U.S. GENERAL AVIATION AIRCRAFT HIJACKING INCIDENT.

5. A TOTAL OF 2,401 INVESTIGATIONS OF ALLEGED SECURITY VIOLATIONS BY AIR CARRIERS, AIRPORTS, AND INDIVIDUALS WERE COMPLETED.

6. CIVIL PENALTIES TOTALING $350,493 WERE ASSESSED IN 350 OF THE INVESTIGATIONS.

7. THERE WERE 97 ASSESSMENTS COMPLETED OF THE EFFECTIVENESS OF SECURITY MEASURES IMPLEMENTED AT FOREIGN AIRPORTS.

8. DOMESTIC AND INTERNATIONAL SECURITY MEASURES WERE FURTHER REVISED AND INCREASED TO PREVENT OR DETER TERRORIST AND OTHER CRIMINAL ACTS AGAINST CIVIL AVIATION.

9. FEDERAL AIR MARSHAL TEAMS FLEW 3,960,000 NAUTICAL MILES IN ESPECIALLY SENSITIVE AREAS OF THE WORLD.

II. INTRODUCTION

This 27th Semiannual Report to Congress on the Effectiveness of the Civil Aviation Security Program is submitted pursuant to section 315(a) of the Federal Aviation Act of 1958, as amended. This section requires that a semiannual report be submitted to the Congress concerning the effectiveness of air carrier passenger screening procedures. This report covers the period July 1, 1987 - December 31, 1987.

The report presents a concise picture of the nationwide effectiveness of the procedures used to screen passengers and their carry-on items prior to boarding scheduled and public charter flights, as well as visitors desiring access to air terminal passenger boarding areas. This report also provides data on the initiatives being implemented as a result of the review of domestic airport security by the Secretary's Safety Review Task Force.

Included in this report is a summary of the assessments conducted by the Federal Aviation Administration's (FAA) Office of Civil Aviation Security to determine the effectiveness of the security measures at foreign airports served by U.S. air carriers, foreign airports from which foreign air carriers serve the United States, foreign airports which pose a high risk of introducing danger to international air travel, and such other foreign airports as the Secretary of Transportation may deem appropriate. These assessments were conducted pursuant to the International Security and Development Cooperation Act of 1985 (Public Law 99-83) which amended section 1115 of the Federal Aviation Act of 1958, as amended.

In addition, this report includes a summary of the activities of the Federal Air Marshals (FAM) Program and the changes in security measures which were instituted during this reporting period to prevent or deter terrorist and other criminal acts against civil aviation. Intensive basic and recurrent in-service training of these special agents in FAM duties by the Federal Law Enforcement Training Center, U.S. Department of the Treasury, continues to assure that they maintain a high level of proficiency in the skills critical to performance of their highly specialized duties.

Additional information has been added to this report on the FAA's K-9 Explosive Detection Team and Aviation Explosive Security Programs, the Hazardous Materials Compliance and Enforcement Program, and the international technical assistance program.

III. AIRCRAFT HIJACKING INCIDENTS

A U.S. citizen (or corporation) engaged in public charter and/or scheduled passenger air operations must hold an operating certificate issued by the FAA. Technically, that person (or corporation) is a "certificate holder." In this report, such certificate holders are referred to as air carriers in order to differentiate them and their aircraft from general aviation operators and aircraft.

During the period July 1 - December 31, 1987, there were no hijackings of U.S. scheduled air carrier aircraft. During the same period, however, a foreign airliner and a U.S.-registered general aviation aircraft were taken over by hijackers in the United States, and a U.S. air carrier crashed as a result of an an apparent murder-suicide.

The first incident involved an Air Canada flight preparing to depart San Francisco, California, for Toronto, Canada. A passenger, who had earlier arrived on an international flight from Korea and was being processed through U.S. Customs, abandoned his luggage and exited through a fire door into the San Francisco International Airport air operations area (AOA). While commenting that he was being pursued by "Mafia hit men," he forced the driver of a baggage tug off his vehicle and attempted to depart in it. After he was unable to start the tug, he ran up the exterior stairs leading from the AOA to the jetway where the Air Canada flight was parked. He burst into the cockpit, seized the fire ax, threatened the captain and flight officer, who were the only two people on the aircraft at the time, and demanded to be flown to either London, England, or Dublin, Ireland. He also demanded to speak to the Director of the FBI. The hijacker surrendered after approximately 3 hours of negotiations, and no one was injured.

The second incident involved the hijacking and subsequent theft of a nine-seat general aviation aircraft. A pilot and a salesman for a San Antonio, Texas, aircraft sales firm flew the aircraft to McAllen, Texas, in order to take potential purchasers on a test flight. The potential purchasers forced the pilot, at gun point, to fly the aircraft to Mexico and land at a remote airstrip. The pilot and the salesman were left tied up on the ground and the hijackers flew off in the aircraft. The aircraft was recovered the following day at Ciudad Mante, Tamaulipas, Mexico.

In the third incident, a former employee of USAir may have used an identification card that was not returned when his employment was terminated to bypass screening at the Los Angeles International Airport (LAX) and smuggle a firearm onto San Francisco-bound Pacific Southwest Airlines Flight No. 1771. However, it has not yet been officially established how the weapon was brought onboard the aircraft. It is thought that the weapon was used to kill the gunman's former supervisor who was on the flight and then to shoot the cockpit crew, thereby causing the aircraft to crash. The incident is being investigated by the Federal Bureau of Investigation.

During the reporting period, there were five foreign air carrier hijackings, bringing the total for 1987 to nine. The total U.S. air carrier hijackings remained at four for the third consecutive year. The combined number of U.S. and foreign air carrier hijackings in 1986 and 1987 remained at the lowest level in the last 10-year period.

The downward trend and relatively low number of hijacking incidents, compared to previous years, are positive indications that heightened security awareness and tightened security measures have played a key role in deterring hijackings, and possibly other crimes, directed against civil aviation.

(See Exhibits 1, 2, 3, and 4)

IV. BASIC POLICIES

Operating on the concept of shared responsibilities among air carriers; airports; Federal, state, and local governments; and the airline passengers, the U.S. Civil Aviation Security Program has continued to be highly effective in preventing aircraft hijackings and other criminal acts against civil aviation. The spirit of cooperation which characterizes these mutually beneficial working relationships has been very helpful in making the system work well. To assure safe air travel, the FAA establishes and enforces regulations, policies, and procedures; provides highly trained professional Federal Air Marshals for in-flight security on U.S. airlines operating in sensitive areas of the world; and, in general, provides overall guidance and direction to the program. The air carriers, however, are responsible for the safety of passengers, baggage, and cargo in their care, as well as the safeguarding of their aircraft. Similarly, airport operators are responsible for maintaining a secure ground environment and for providing local law enforcement support for airline and airport security measures. Finally, the passengers—the ultimate beneficiaries of the security program--pay for the costs of the program through security charges included in airline ticket price calculations.

(See Exhibit 5)

V. PASSENGER SCREENING - SCOPE AND EFFECTIVENESS

Mandatory security screening procedures, which include inspection of all passengers and their carry-on items, have been in effect since 1973. Since the initiation of these security measures, over 9 billion persons have been screened and over 9.9 billion carry-on items have been inspected. This has resulted in the detection of over 40,200 firearms and nearly 18,000 related arrests.

During this 15-year span, there have been 108 hijacking incidents involving U.S. air carriers, or an average of 7.2 per year. This compares favorably with the average of 27 hijackings per year recorded in the 5-year period (1968-1972) immediately preceding the implementation of the mandatory screening procedures. Implementation of extraordinary civil aviation security procedures since the June 14, 1985, hijacking of Trans World Airlines (TWA) Flight No. 847 has apparently contributed to a reduction of hijackings to an average of 4 per year since then.

Passenger screening is carried out to detect and prevent the carriage of firearms, explosives, incendiaries, and other deadly weapons aboard air carrier aircraft. The FAA's analysis of screening checkpoint activity includes the recording and study of the number of items detected and the false threats received, as well as related information concerning individuals arrested. Results of U.S. screening activities for the last half of 1987 are detailed as follows:

Over 546.9 million passengers were processed through screening checkpoints at 413 airports. A total of 1,607 firearms were detected during this reporting period, which is approximately 2 percent lower than the previous reporting period, yet is 7 percent higher than the average of 1,500 weapons detected during the preceding ten reporting periods. X-ray inspection resulted in the detection of 1,512 firearms in carry-on items, 49 firearms were detected by use of the metal detector, and 46 were detected as a result of physical search. In addition, there were 9 explosive incendiary devices discovered during this period. Seven of these were discovered by X-ray inspection and 2 by physical searches. There were 847 persons arrested at screening points for the unauthorized carriage of firearms or explosive/incendiary devices. This figure represents a 26 percent increase over the average of 669 arrests for the preceding ten reporting periods.

In addition to criminal action taken by Federal and local authorities, individuals who, without proper authorization, attempt to carry firearms or explosives/incendiaries through screening checkpoints also may be subject to civil penalties imposed by the FAA. This is described in more detail in section VI.

(See Exhibits 6 and 7)

VI. COMPLIANCE AND ENFORCEMENT

Federal Aviation Regulations (FAR) require the adoption and effective implementation of security programs by airports and air carriers. These security programs contain security procedures which are designed to prevent or deter aircraft hijacking, sabotage, and related criminal acts. The security procedures are under constant review by the FAA and the aviation industry to ensure the procedures are effective in countering the ever-changing threat to U.S. civil aviation.

There are 136 U.S. scheduled and public charter air carriers of various sizes that are required to adopt FAA-approved security programs. Each of these U.S. air carriers has adopted the Air Carrier Standard Security Program (ACSSP) which was developed by the FAA in consultation with the industry. This program requires each air carrier to implement the same standard security procedures. The FAA has authority to amend the ACSSP when the safety and the public interest are determined to be at risk.

There are 96 foreign scheduled and public charter air carriers that serve airports within the United States. Although foreign air carriers are also required to implement security programs, U.S. regulations do not currently require a foreign air carrier to submit its security program to the FAA for approval. Foreign air carrier security programs are currently under review.

The 232 domestic and foreign scheduled and public charter air carriers serve 413 airports within the United States. Each of these airports is required to implement a security program which provides a secure operating environment for these air carriers. Airport security programs are designed to meet the threat to the specific airport. Of the 413 airports, 16 have been determined to have a need for increased security oversight and implementation of special security requirements. FAA headquarters maintains and reviews the security programs of each of these 16 to ensure that a high level of security is maintained.

To improve the development of national guidance and policy concerning implementation of security requirements, significant airport activity reports and air carrier performance reports are periodically provided to the Office of Civil Aviation Security by FAA regional security divisions. The information contained in these reports assists in determining if identified problems are specific to a particular airport or air carrier or are generic in nature.

The FAA makes every effort to foster an atmosphere of voluntary compliance to ensure that personnel of the air carriers, airports, and other organizations properly comply with the FAR and applicable security programs. FAA civil aviation security special agents inspect the aviation industry's security operations on a regularly scheduled basis and at unscheduled intervals. During these inspections, weaknesses and deficiencies are corrected and security violations are identified.

To assure the safety and security of the traveling public, all alleged and apparent violations of security requirements are investigated and appropriate action is taken. These actions may take the form of administrative actions (warnings, letters of correction), civil penalties, or criminal prosecution.

During the period July 1 through December 31, 1987, 2,401 investigations of alleged security violations by U.S. and foreign air carriers, airports, and individuals were closed. In 350 of the cases, civil penalties totaling $350,493 were collected. The $350,493 in civil aviation penalties collected in the second half of 1987 represented an increase of 35 percent over the $228,777 collected in the first half of 1987. In 1,912 cases, administrative actions were taken. The alleged violations were not substantiated in 139 cases.

(See Exhibit 8)

VII. ASSESSMENTS OF SECURITY MEASURES MAINTAINED AT FOREIGN AIRPORTS

Public Law 99-83, the International Security and Development Cooperation Act of 1985, was enacted on August 8, 1985. Title V, Part B of the Act amends section 1115 of the Federal Aviation Act of 1958 and directs the Secretary of Transportation to assess the effectiveness of security measures at those foreign airports being served by U.S. air carriers, those foreign airports from which foreign air carriers serve the United States, those foreign airports which pose a high risk of introducing danger to international travel, and at such other airports as the Secretary may deem appropriate. The Act requires that specific action be taken regarding airports which do not maintain and administer effective security measures.

The FAA has been delegated the responsibility for the implementation of certain legislative requirements in Public Law 99-83. These include the assessment of security measures at foreign airports and consultation with the Secretary of State concerning threats to U.S. citizens traveling abroad.

At present, there are nearly 200 foreign airports which meet the assessment requirements of Public Law 99-83. This number fluctuates as changes in air carrier service take place at these airports. In 1986, the FAA conducted 350 foreign airport assessments. In 1987, 246 assessments were conducted, 97 of which were conducted during this reporting period. This slight reduction in the number of assessments resulted from an indepth analysis of all foreign airports subject to assessment and a refocusing of resources at those locations where experience and other available information in threat analyses indicated that less frequent visits would still assure compliance with International Civil Aviation Organization (ICAO) Standards and appropriate Recommended Practices.

Assessments consist of an indepth analysis of the security measures at the airports visited, using a standard which is based, at a minimum, on the Standards and appropriate Recommended Practices contained in Annex 17 to the Convention on International Civil Aviation. If FAA develops information indicating that an airport does not maintain and administer effective security measures, these assessments are reported to the Secretary of Transportation. Public Law 99-83 provides for notification to the foreign country involved when a determination is made by the Secretary of Transportation that a foreign airport does not maintain and administer effective security measures. Notifications include recommended steps to remedy the problem. The law also specifies when and how the public is to be notified of that determination. Public notice occurs when the foreign government fails to bring security measures up to the standard within 90 days of being notified of the Secretary of Transportation's determination. If the Secretary of Transportation at any time determines, after consultation with the Secretary of State, that a condition exists that threatens the safety or security of passengers, aircraft, or crew traveling to or from a specified airport, the Secretary of Transportation must immediately initiate the public notification procedures and, in addition, apprise the Secretary of State, who must issue a travel advisory. Under these circumstances, the Secretary of Transportation is also required to consider whether the public interest necessitates the immediate suspension of service between the United States and the specified airport.

VIII. INTERNATIONAL TECHNICAL ASSISTANCE

During calendar year 1987, Office of Civil Aviation Security representatives provided indepth security briefings at FAA headquarters for 91 high-ranking foreign nationals representing 17 countries.

The FAA also hosted a high-level delegation of Soviet aviation security officials visiting the U.S. on an exchange visit following a trip by United States Civil Aviation Security representatives to the Soviet Union in March 1987. Consultations initiated during the U.S. representatives' visit to the Soviet Union were continued during this visit.

In addition to attending two formal meetings in Washington, the delegation also visited Washington Dulles International Airport, JFK International Airport, and the Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. Representatives of both the United States and Soviet Union agreed that a sound basis for ongoing consultations had been established.

FAA representatives also joined the Department of State Anti-Terrorism Assistance Program (ATAP) efforts in Cyprus and Cote D'Ivoire during 1987. This cooperative effort is expected to continue and possibly increase in 1988. Furthermore, FAA security specialists provided crisis management training to Department of State personnel assigned to posts in Rome, Stockholm, Lisbon, and Vienna.

The FAA also participated with the U.S. Department of State, Office of Counter Terrorism and Diplomatic Security, in the survey of airport security in 7 selected African countries in the wake of the Air Afrique hijacking in the Central African Republic in July 1987. The followup to this effort will involve participation in training initiatives both in-country and in the United States in 1988.

At the request of the Colombian Government, FAA security personnel conducted an extensive security survey of the Eldorado International Airport at Bogota, Colombia. The results of the survey have provided a foundation for a multiyear improvement program for Colombia with assistance being given by several U.S. Government agencies.

As the result of the growing importance of aviation security to the international community, the International Civil Aviation Organization (ICAO) established an Aviation Security Panel and convened its first meeting in Montreal in the summer of 1987. FAA participation was eagerly sought and obtained by this organization, as well as a commitment by the FAA to participate in all future panel meetings.

Civil Aviation Security personnel also participated in ICAO Aviation Security Seminars held in Bangkok, Thailand; Nairobi, Kenya; and Riyadh, Saudi Arabia, during CY 1987. The active role of assistance provided by FAA security representatives at these seminars resulted in:

- Improved aviation security preventive measures in the region.

- o Improved coordination/cooperation between various political entities/ states/agencies in the region.

- o Provision of a forum for an exchange of views regarding regulations/ measures/procedures proposed or in place.

- o Enhanced coordination between airports, air carriers, civil aviation authorities, and law enforcement agencies within a country.

- o Feedback from participating nations in the region as to what they perceived needed to be accomplished in aviation security.

During this reporting period, 103 international students representing 21 foreign countries received FAA civil aviation security training at the Transportation Safety Institute, Oklahoma City, Oklahoma. The following are some of the countries represented: Canada, Mexico, United Kingdom, India, United Arab Emirates, Philippines, Kenya, Argentina, Pakistan, Belize, Senegal, Czechoslovakia, Ireland, Brazil, and Germany.

IX. FEDERAL AIR MARSHAL (FAM) PROGRAM ACTIVITIES

The enactment of Public Law 99-83, the International Security and Development Cooperation Act of 1985, established an explicit statutory basis for the FAA's FAM Program. This statute provided the Secretary of Transportation with the authority to authorize (with the approval of the Attorney General and the Secretary of State) civil aviation security Federal Air Marshals to carry firearms and to make arrests without warrant for any offense against the United States committed in their presence if they have reasonable grounds to believe that the person to be arrested has committed or is committing a felony.

FAM's are recruited as civil aviation security specialists (special agents) and when not on FAM missions, perform the same wide variety of aviation security functions as performed by other security specialists. However, as FAM's, they receive intensive, highly specialized law enforcement training at the Federal Law Enforcement Training Center (FLETC), followed by recurrent training every 6 months. In this reporting period, one basic class and five in-service classes were successfully concluded at the FLETC training site located at Marana, Arizona.

During this reporting period, FAM's continued to provide security coverage of selected flights operating in especially sensitive areas of the world, covering approximately 3,960,000 nautical miles. The missions, all flown with U.S. air carriers, were selected based on analysis of worldwide terrorist activities. Since civil aviation continues to represent an attractive target to terrorists, FAM's will continue this very effective countermeasure of providing in-flight security.

X. CIVIL AVIATION SECURITY INITIATIVES

The FAA continues to respond to the recommendations of the Secretary's Safety Review Task Force concerning aviation security policies and practices at domestic airports. The task force review covered five key areas: airport perimeter and air operations areas; air carrier security coordinators and crewmember training; passenger screening procedures; checked baggage and cargo screening; and explosives detection research and development.

Reports on passenger screening procedures and checked baggage and cargo screening were received during this reporting period, and the following actions were taken:

- The FAA established special security requirements for airports determined to have an inherently greater than normal threat (Category X).

- An analysis was completed of FAA's test procedures for determining screening equipment capabilities. The FAA is in the process of increasing testing standards for screening equipment in use at Category X airports and is considering similar increases of equipment used at other airports.

- The FAA contracted with academia to develop employment qualification standards, as well as staffing and other operational standards for screening checkpoint personnel.

- The FAA also contracted with academia to study the impact of various operational, technical, and environmental factors on the efficiency of preboard screening.

- The FAA established a detection standard of 100 percent for detection of passenger screening test objects during FAA tests of screeners. Enforcement action is now being taken against air carriers each time a screener fails to detect a test object during an FAA test.

- An automated tracking system was developed to monitor and analyze screener test results to determine problem areas.

- All air carrier security programs were amended to require security screening of all persons, including crewmembers, who enter a sterile area through a passenger screening security checkpoint.

- The FAA further restricted the number of people who can enter a sterile area from points other than a passenger screening security checkpoint.

- The FAA initiated a rulemaking action which will propose that airports install automated access control systems designed to gain better access control and immediately lock out persons who are no longer authorized access to security controlled areas of the airports.

- The FAA has issued an amendment to air carrier-approved security programs to require all checked baggage for international flights be subjected to specific security controls.

XI. FAA K-9 EXPLOSIVE DETECTION TEAM PROGRAM

The FAA K-9 Explosive Detection Team Program was implemented in 1972. Currently, there are 31 local law enforcement organizations participating in this program. Each jurisdiction must agree to establish two teams in order to participate. The FAA will support up to five teams (each team consists of one dog and one handler) for each participating organization.

The Air Force, through a reimbursable agreement with the FAA, provides initial training at Lackland Air Force Base, Texas, follow-on evaluations, and refresher training for civilian law enforcement officers and dogs in patrol dog handling and explosives detection.

During this reporting period, the proficiency detection rate for overall team evaluation certifications was raised from 90 percent to 95 percent. All teams must be familiar with aircraft and automobile searches, baggage and their related containers, and air operations areas. Participants in this program can be dispatched to any location throughout the world where this type of specialized aviation explosives detection technical assistance is required.

The Explosives Detection K-9 Team Program continues to serve as a major defense against one of the main threats to safety in air travel, that of explosives and improvised explosive devices.

(See Exhibits 9 and 10)

XII. AVIATION EXPLOSIVES SECURITY

Currently bomb threats and incidents against U.S. aircraft and airports continue their downward trend. Statistical "spikes" do occasionally occur and may, in part, be due to extensive publicity following aviation explosives incidents such as the following: (1) the Air India Flight No. 182 crash off the coast of Ireland and the almost simultaneous explosion of a piece of Air India transfer baggage in Narita, Japan, on June 23, 1985; (2) the explosion on TWA Flight No. 840 over Athens, Greece, on April 2, 1986; and (3) the discovery of a bomb in the baggage of a passenger attempting to board an El Al flight at London Heathrow Airport, London, England, on April 17, 1986. As in the past, media attention seems to result in a temporary marked increase in the number of bomb threats against civil aviation.

During the past 5 years, some 50 "bomb" incidents were reported, and thirty of these were proven to be hoaxes. Live explosive devices were discovered in the remaining 20, but only three were capable of functioning as bombs. No explosive device was found in a U.S. airport or onboard a U.S. air carrier during this reporting period.

(See Exhibit 11)

XIII. RESEARCH AND DEVELOPMENT

Since the inception of its security Research and Development Program in 1976, the FAA has focused its major efforts on the development of automated detection equipment to screen passengers, baggage, and cargo for concealed explosives. This remains a priority objective. Significant progress has been made in this area through the use of advanced bulk and vapor detection techniques, but terrorists' access to newer, low vapor-pressure sheet explosives makes this problem a continuing challenge.

A review of the technologies available to detect explosives that could be carrried on an aircraft by a person quickly led to the conclusion that the explosive must be detected by the characteristic vapor or "smell" that it emits. The major challenge has been the development of sensitive devices that can collect adequate samples from low vapor-pressure explosives, yet are selective enough to distinguish explosives from background vapors commonly found in vapor detection technology. The FAA is conducting research to incorporate the vapor detector into a walk-through screening portal suitable for airport use. The portal will use large amounts of air to sweep vapors from passengers into the collector. The first airport test of the prototype portal detection system is scheduled for September 1988 at the Boston Logan International Airport.

The detection of explosives in checked baggage is a difficult problem complicated by the extraordinary variety of objects in passenger luggage and the diversity of the explosive threat. The FAA has been performing research and development on this problem for the past 10 years. Efforts have been accelerated since 1985, leading to the airport testing of two prototype thermal neutron analysis systems beginning in May 1987. Initial airport testing was performed at San Francisco International Airport on a mixture of domestic and international bags. Over 20,000 pieces of checked baggage were examined and the results were very favorable. All decisions relating to the detection of the explosive simulants within the luggage were made by the computer. There is no human decision-making or interpretation involved in the detection process.

The FAA continues to search for new concepts and technologies which will result in explosive detection systems that are more effective, less complex, and less costly than those currently under development. Given the fact that such efforts are high risk and long term, the FAA strategy under the expanded and accelerated program is to increase the number and technical quality of new concepts investigated. The FAA advertised this requirement through the procurement process in fiscal years 1985, 1986, and 1987.

Approximately 20 proposals were evaluated each year, with four or more funded for concept demonstation each year. Technologies were funded employing high-energy physics approaches to detect explosives in baggage and cargo. Also funded were several alternative vapor collection and detection techniques which promise to be more sensitive or efficient than earlier ones produced in research and development efforts.

In the FAA's concourse security program, emphasis has been placed on screening people. In FY 1986 and FY 1987, the FAA solicited proposals to improve the operation of existing metal detector technology. The objective of this development effort was to improve hardware design and signal processing to reduce false alarms while retaining detection of the smallest handguns.

In FY 1986 and FY 1987, the FAA also issued a solicitation for new detection concepts for nonmetallic weapons. Of the proposals received and evaluated, two were funded each year. Technologies proposed included infrared imaging as well as sonic and microwave technologies. Studies are ongoing to assess these technologies for detection of threat weapons, resolution, operational problems, processing speed, and potential false alarms. The FAA projects that it will have a system to conduct airport concept feasibility testing during 1990. The FAA is developing technology to detect nonmetallic weapons; however, no nonmetallic weapons are reported in commercial production at this time.

There is an effort in the FAA's Research and Development Program to enhance and automate X-ray systems used in the screening of passenger carry-on items, while, at the same time, several manufacturers are independently showing great innovation in extending X-ray technology to identify specific threats. Studies are underway to improve concourse X-ray system performance by concentrating on the development of automatic pattern recognition software and hardware. Integrated into current X-ray detectors, automatic pattern recognition systems would alert the operator to suspicious items in luggage and graphically highlight the threat.

In conclusion, the FAA is approaching the problem of detecting the terrorists' tools, weapons, and explosives by focusing on detecting the fundamental properties of the threat. Mature technologies, like thermal neutron analysis, are currently undergoing airport testing. Other technologies are being pursued in anticipation of potential threats such as the nonmetallic handgun. The goal of the FAA research program is to develop technology to fit into a total security system to deter, detect, and defeat threats against the air traveling public.

XIV. HAZARDOUS MATERIALS COMPLIANCE AND ENFORCEMENT PROGRAM

Within the FAA, hazardous materials (HM) inspections/surveillance activities are conducted by civil aviation security inspectors in conjunction with regularly scheduled security inspections of air carriers and airports. At a minimum, inspections are conducted of all air carriers, both U.S. and foreign, when it is determined that the air carrier (passenger or cargo) regularly accepts and transports or handles HM. These inspections are conducted based on a review and analysis of prior HM shipments, incident experience, identified or anticipated problem areas, and a history of violations.

In order to determine compliance effectiveness and ensure that freight forwarders and shippers meet their basic responsibilities in the shipment of HM by air, the FAA is continuing inspection efforts at the major air carrier facilities at major airports. These locations are considered collection points for shipments originating from many freight forwarders and shippers. When problems exist with a particular company, assistance can be directed to the particular problem areas concerned.

In order to place greater emphasis on compliance and enforcement in the areas around major airports, the FAA has participated in joint coordination inspection programs with local Bureau of Motor Carrier Safety Inspectors to ensure that those commodities being transported to air carrier facilities are done so under the provisions of pertinent regulations.

In 1987, one basic and four advanced classes in air transportation of HM were conducted at the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma. Twenty-one new civil aviation security special agents received basic training, and 68 others received in-service recurrent training in air transportation of hazardous materials.

During 1987, the FAA evaluated 68 proposed Department of Transportation (DOT) exemptions affecting the transportation of HM by air and reviewed an additional 22 requests for emergency exemptions. Civil aviation security special agents also participated in the Flight Standards National Aviation Safety Inspection Program (NASIP) throughout 1987 and will continue in 1988.

All HM and inspections/surveillance activities are entered into a host computer at the Transportation System Center. However, action is currently being undertaken to enhance the process and incorporate it into the Civil Aviation Security Information System at the Mike Monroney Aeronautical Center.

(See Exhibits 12 and 13)

XV. OUTLOOK

The worldwide terrorist threat to civil aviation persists in the form of threats to Americans. American interests also continue to be targeted by terrorist organizations and those countries supporting international terrorist activities. Civil aviation will continue to represent a very tempting target to criminals and terrorists because of its high visibility. As evidence of a continuing threat to this industry, so vital to the world economy, most governments recognize that increased security efforts must be taken to provide a safer and more secure air transportation system. The recurring assessments of security measures implemented at foreign airports assist foreign airport authorities in improving and maintaining the overall security posture of their international airports.

In the United States, joint initiatives have been undertaken with the aviation industry and airport operators to implement the recommendations of the Secretary's Safety Review Task Force with special emphasis on improved monitoring of security procedures at major U.S. airports. Efforts will continue in the review, testing, and evaluation of airport contingency plans through hijack exercises throughout the United States and in the research and development efforts to improve technical equipment utilized in passenger/baggage screening. The FAA will continue its efforts to support the efficient, reliable, safe, and secure flow of people and property through the system.

In 1987, worldwide terrorist incidents against any target of opportunity occurred geographically as follows: 44.6 percent in the Middle East; 13.0 percent in Latin America; 3.5 percent in Sub-Saharan Africa; 0.1 percent in Eastern Europe; 18.0 percent in Western Europe; and 20.8 percent in Asia.

(See Exhibit 14)

U.S. Department of Transportation

Federal Aviation Administration

U.S. and Foreign Air Carrier Aircraft Hijackings

(Detailing the Period January 1, 1978-December 31, 1987)

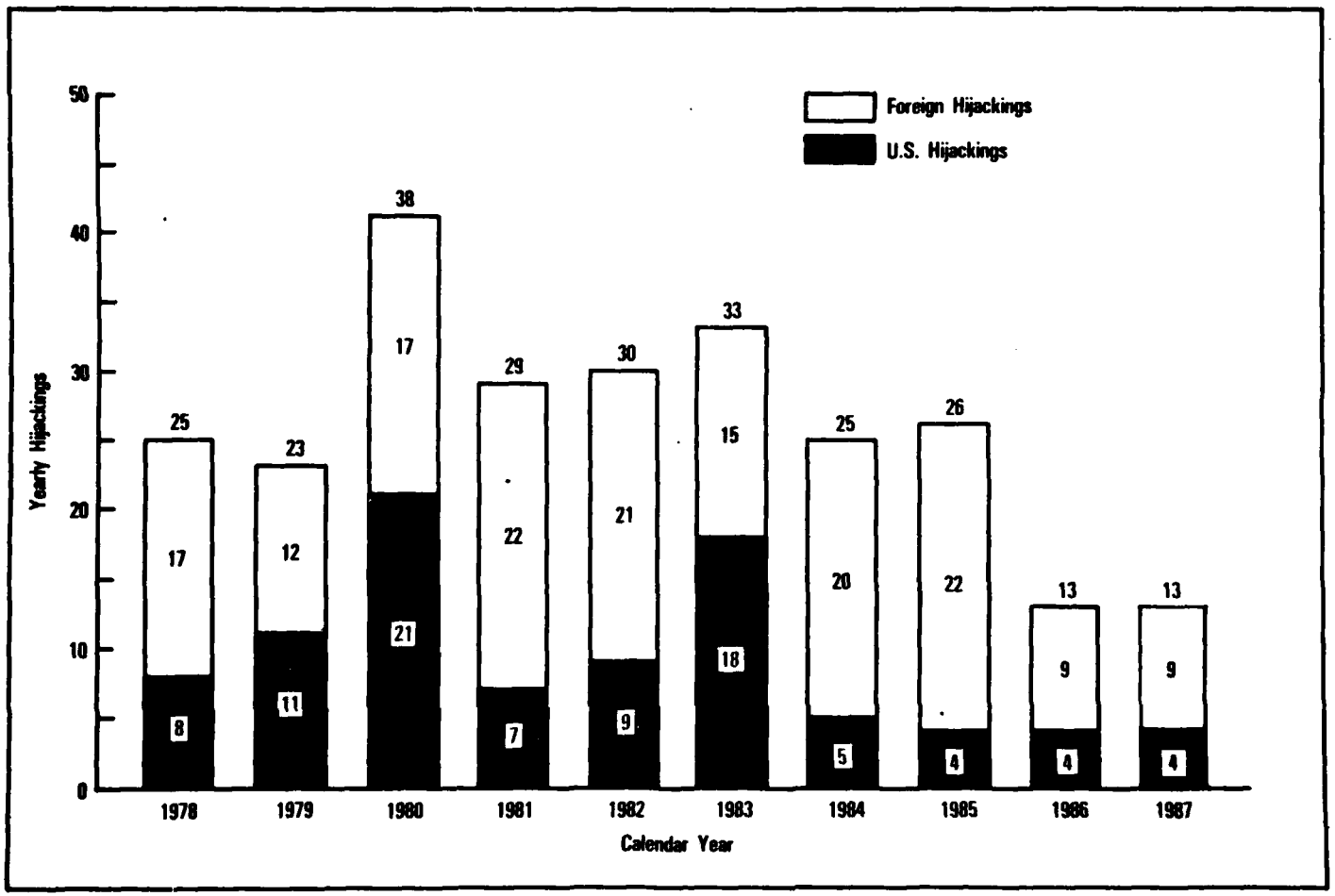


Exhibit 1

As of: 12-31-87

US Department of Transportation
Federal Aviation Administration

U.S. and Foreign Air Carrier Aircraft Hijacking Summaries

(July 1-December 31, 1987)

U.S.

Date	Airline Flt/ Aircraft	Number Aboard	Boarding Point	Destination/Objective	Remarks
			NONE		

Foreign

Date	Airline Flt/ Aircraft	Number Aboard	Boarding Point	Destination/Objective	Remarks
7/24/87	Air Afrique	164	Bangui, Central African Repub.	Middle East	Overpowered by Crew After He Murdered a Passenger
9/8/87	LOT (Polish Airline)	Unk	Warsaw, Poland	Unknown	Overpowered by Passenger
11/6/87	Air Canada Flight 758	2 Crew	San Francisco, CA	Dublin, Ireland or London, England	Surrendered to Police Negotiators
12/23/87	KLM Flight 343	97	Amsterdam, Holland	New York/ Extortion	Hijacker Was 15 Years Old/ Overpowered by Police in Rome
12/28/87	Iran Air	Unk	Tehran, Iran	Unknown	Overpowered by In-Flight Security

Exhibit 2

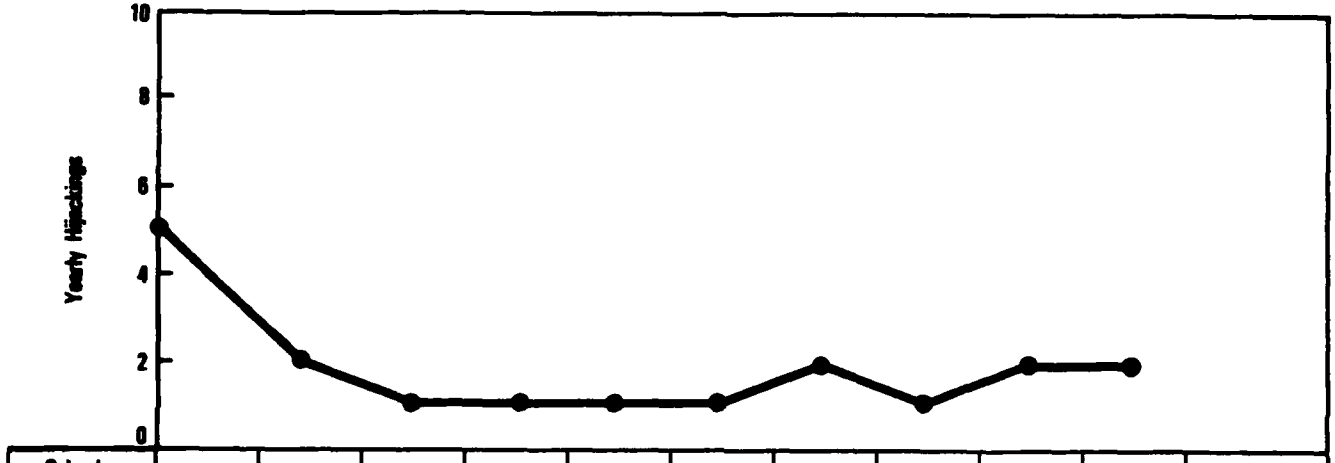
As of: 12-31-87

U.S. Department of Transportation

Federal Aviation Administration

U.S. General Aviation Aircraft Hijackings

(Detailing the Period January 1, 1978-December 31, 1987)



Calendar Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Total
Total	5	2	1	1	1	1	2	1	2	2	18

July 1-December 31, 1987 Incidents

Date	Airline Aircraft	Numbers Aboard	Hijacker Boarding Point	Destination/ Objective	Remarks
10-26-87	Chapparal Aviation	2	McAllen, TX	Mexico	Acft Hijacked by Prospective Buyers

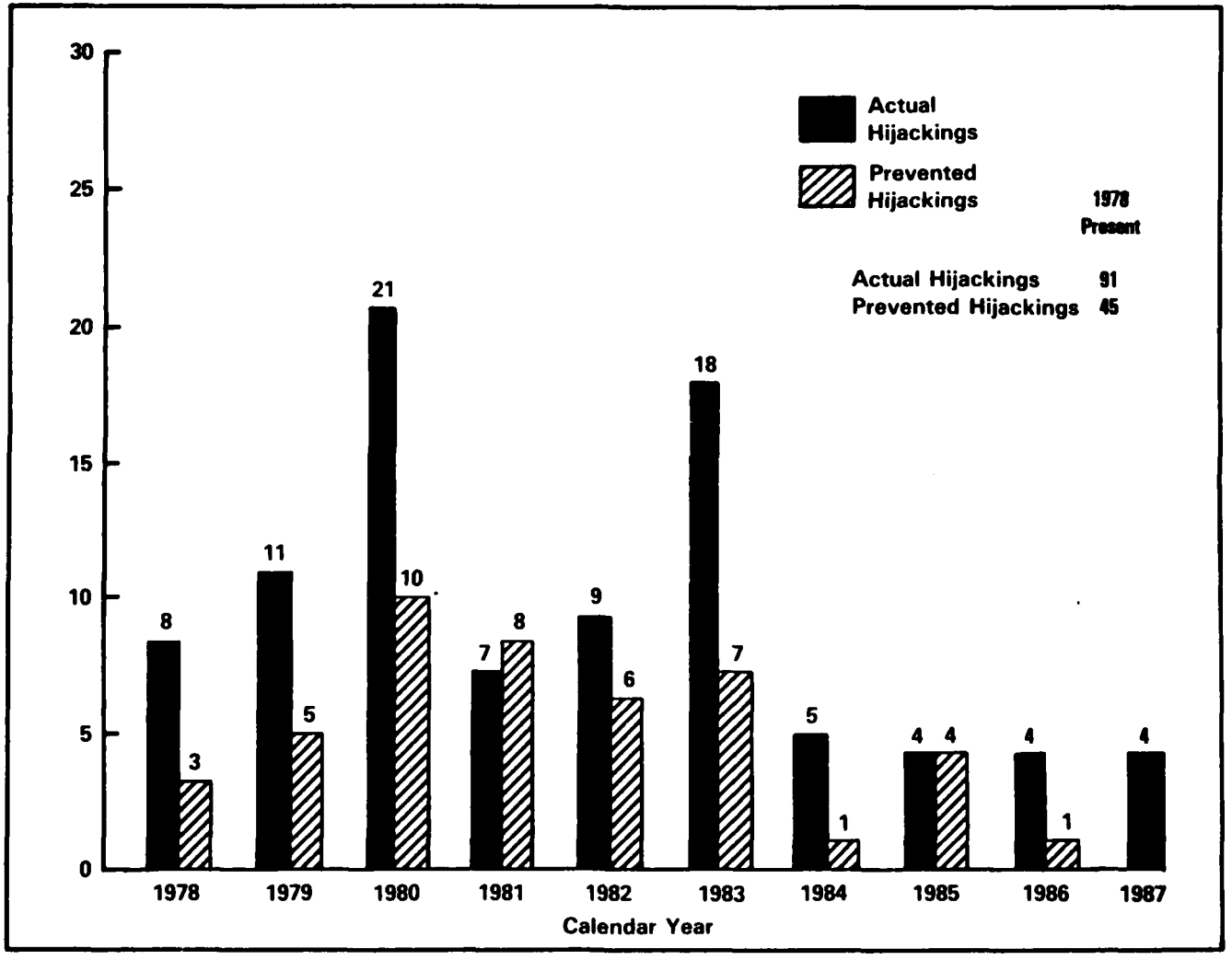
Exhibit 3

As of: 12-31-87

U.S. Department of Transportation
Federal Aviation Administration

Actual Hijackings & Prevented Hijackings of U.S. Air Carrier Aircraft

(Detailing the Period January 1, 1978-December 31, 1987)



PREVENTED HIJACKINGS: Incidents in Which It Appeared the Individuals Involved Intended to Hijack an Aircraft but Were Prevented From Doing So by Security Procedures.

Exhibit 4

As of: 12-31-87

US Department of Transportation
Federal Aviation Administration

Civil Aviation Security Basic Policies

Program Element	Responsibility	Actions
Air Carriers	Secure Travel	• Maintain Responsive Security Programs • Screen Passengers, Carry-on Items • Secure Baggage, Cargo Procedures Protect Aircraft
Airports	Secure Operating Environment	• Maintain Responsive Security Programs • Protect Air Operations Area • Provide Law Enforcement Support
FAA	Leadership	• Identify and Analyze Threat • Prescribe Security Requirements • Coordinate Security Operations • Provide Technical Assistance • Enforce Regulations
Users	Program Costs	• Security Funded as Operating Cost of System

Exhibit 5

As of: 12-31-87

U.S. Department
of Transportation
Federal Aviation
Administration

Civil Aviation Security
Scope and Effectiveness
1973-1987

- Over 9 Billion Persons Screened
- Over 9.9 Billion Pieces of Carry-on Items Inspected
- Over 40,200 Firearms Detected
- Nearly 18,000 Related Arrests
- 117 Hijackings or Related Crimes May Have Been Prevented by Airline and Airport Security Measures

Exhibit 6

As of: 12-31-87

U.S. Department
of Transportation

Federal Aviation Administration

Civil Aviation Security
Airline Passenger Screening Results
January 1981 - December 1987

	1981 Jan-June	1981 July-Dec	1982 Jan-June	1982 July-Dec	1983 Jan-June	1983 July-Dec	1984 Jan-June	1984 July-Dec	1985 Jan-June	1985 July-Dec	1986 Jan-June	1986 July-Dec	1987 Jan-June	1987 July-Dec
Persons Screened (Millions)	294.4	304.1	319.5	310.7	313.9	395.2	367.4	408.2	481.1	511.8	550.3	585.8	548.7	546.9
Weapons Detected														
Firearms	971	1284	1286	1390	1363	1421	1125	1632	1448	1539	1525	1716	1645	1607
(1) Handguns	915	1209	1243	1316	1303	1331	1265	1501	1385	1438	1415	1566	1519	1493
(2) Long Guns	7	37	16	41	22	45	31	69	38	52	49	97	48	51
(3) Other	49	38	27	33	38	45	29	62	25	49	61	53	78	63
Explosive/Incendiary Devices	8	3	0	1	4	0	4	2	5	7	4	7	5	9
Persons Arrested														
For Carriage of Firearms/ Explosives	534	653	651	663	633	649	565	720	602	708	645	770	734	847
For Giving False Information	34	15	21	6	7	27	6	21	17	25	64	25	44	37

Source: Reports of Passenger Screening Activities at U.S. Airports

Exhibit 7

As of: 12-31-87

Civil Aviation Security
Compliance and Enforcement Actions

	1973 Through 1980		1981		1982		1983		1984		1985		1986		1987	
U.S. AIR CARRIERS																
Warnings	1,578		465		164		231		191		426		439		489	
Letters of Correction	970		52		98		51		104		101		156		140	
Non Enforcement Actions	503		38		44		52		33		39		79		107	
Civil Penalties (Amount)	388	($361,650)	35	($72,547)	28	($10,508)	37	($26,861)	56	($62,300)	42	($105,296)	83	($122,221)	160	($340,850)
Investigations Closed	3,439		590		334		371		384		608		757		896	
Investigations Pending	301		115		91		163		88		145		362		1,262	
FOREIGN AIR CARRIERS																
Warnings	18		3		2		3		5		11		8		17	
Letters of Correction	44		0		2		1		0		3		13		9	
Non Enforcement Actions	28		1		2		2		3		4		6		5	
Civil Penalties (Amount)	0		2	($25,000)	0		0		3	($6,000)	0		0		2	($26,000)
Investigations Closed	90		6		6		6		11		18		27		33	
Investigations Pending	34		2		4		4		1		7		13		55	
AIRPORTS																
Warnings	734		63		59		57		43		53		60		46	
Letters of Correction	521		14		21		9		14		24		27		32	
Non Enforcement Actions	128		19		9		18		16		10		22		28	
Civil Penalties (Amount)	105	($74,350)	23	($21,675)	8	($6,300)	8	($7,250)	7	($6,750)	6	($10,900)	15	($16,950)	26	($28,650)
Investigations Closed	1,488		119		97		92		80		93		124		132	
Investigations Pending	169		25		18		14		12		25		58		258	
INDIVIDUALS																
Administrative Corrections	2,283		2,168		2,267		2,474		1,964		2,450		1,430		2,158	
Non Enforcement Actions	334		209		161		207		173		171		238		264	
Civil Penalties (Amount)	240	($42,860)	231	($49,410)	114	($28,095)	270	($84,190)	251	($79,429)	278	($80,705)	391	($129,292)	449	($183,770)
Investigations Closed	2,837		2,608		2,542		2,951		2,388		2,899		2,059		2,871	
Investigations Pending	926		398		483		550		662		508		813		3,360	

Exhibit 8

As of: 12-31-87

FAA Local Law Enforcement
K-9 Explosive Detection Team Participants
July 1, 1987—December 31, 1987

LOCATION	PARTICIPANT TEAM
ALABAMA	
Birmingham (BHM)	Birmingham Police Department
ARIZONA	
Phoenix (PHX)	Phoenix Police Department
Tucson (TUS)	Tucson Police Department
CALIFORNIA	
Los Angeles (LGB/BUR LAX Backup)	Los Angeles County Sheriff's Office
Los Angeles (LAX)	Los Angeles Police Department
San Diego (SAN)	San Diego County Sheriff's Office
San Francisco (SFO)	San Francisco Airport Police Department
San Francisco (SFO Backup)	San Mateo County Sheriff's Office
COLORADO	
Colorado Springs (COS)	Colorado Springs Police Department
FLORIDA	
Jacksonville (JAX)	Jacksonville Port Authority
Miami (MIA)	Metro Dade Police Department
GEORGIA	
Atlanta (ATL)	Atlanta Police Department
ILLINOIS	
Chicago (ORD)	O'Hare International Airport Security
LOUISIANA	
New Orleans (MSY)	Jefferson Parrish Sheriff's Office
MARYLAND	
Baltimore (BWI)	Maryland State Police
MASSACHUSETTS	
Boston (BOS)	Massachusetts State Police
MICHIGAN	
Detroit (DTW)	Wayne County Sheriff's Office/Airport Division

LOCATION	PARTICIPANT TEAM
MISSOURI	
Kansas City (MCI)	Kansas City Police Department
St. Louis (STL)	St. Louis Airport Police Department
NEW YORK	
Buffalo (BUF)	Cheektowaga Police Department
NORTH DAKOTA	
Bismarck (BIS)	Bismarck County Police Department
OKLAHOMA	
Tulsa (TUL)	Tulsa Police Department
OREGON	
PORTLAND (PDX)	Port of Portland Police Department
PENNSYLVANIA	
Pittsburgh (PIT)	Allegheny County Police Department
PUERTO RICO	
San Juan (SJU)	San Juan Police Department
TENNESSEE	
Memphis (MEM)	Memphis Police Department
TEXAS	
Dallas (DFW)	Dallas/Fort Worth Airport Police Department
Houston (IAH)	Houston Police Department
UTAH	
Salt Lake City (SLC)	Salt Lake City Airport Authority
WASHINGTON	
Seattle (SEA)	Port of Seattle Police Department
WISCONSIN	
Milwaukee (MKE)	Milwaukee County Sheriff's Office

Exhibit 9

As of: 12-31-87

FAA SPONSORED EXPLOSIVE DETECTION K9 TEAMS LOCATIONS

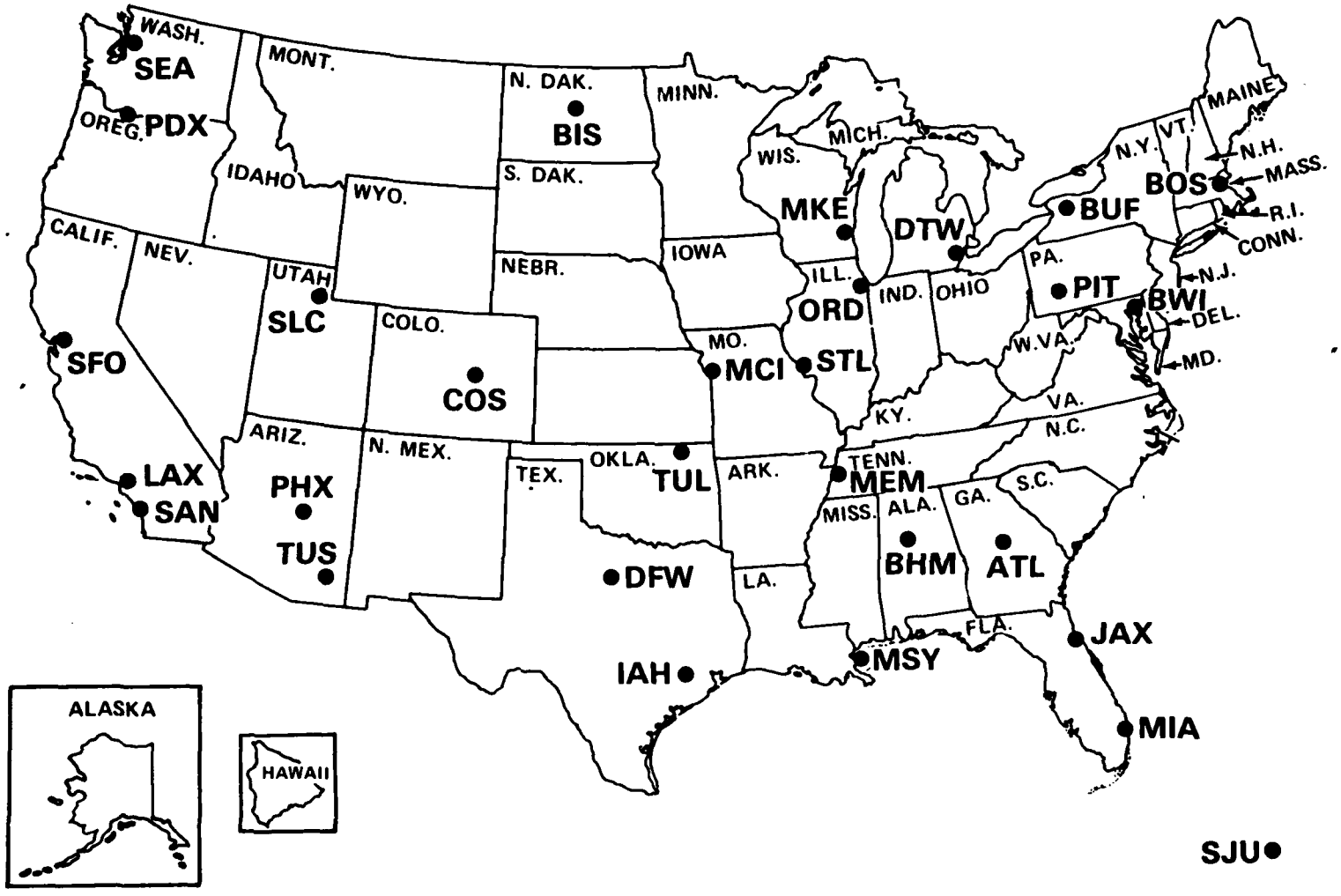
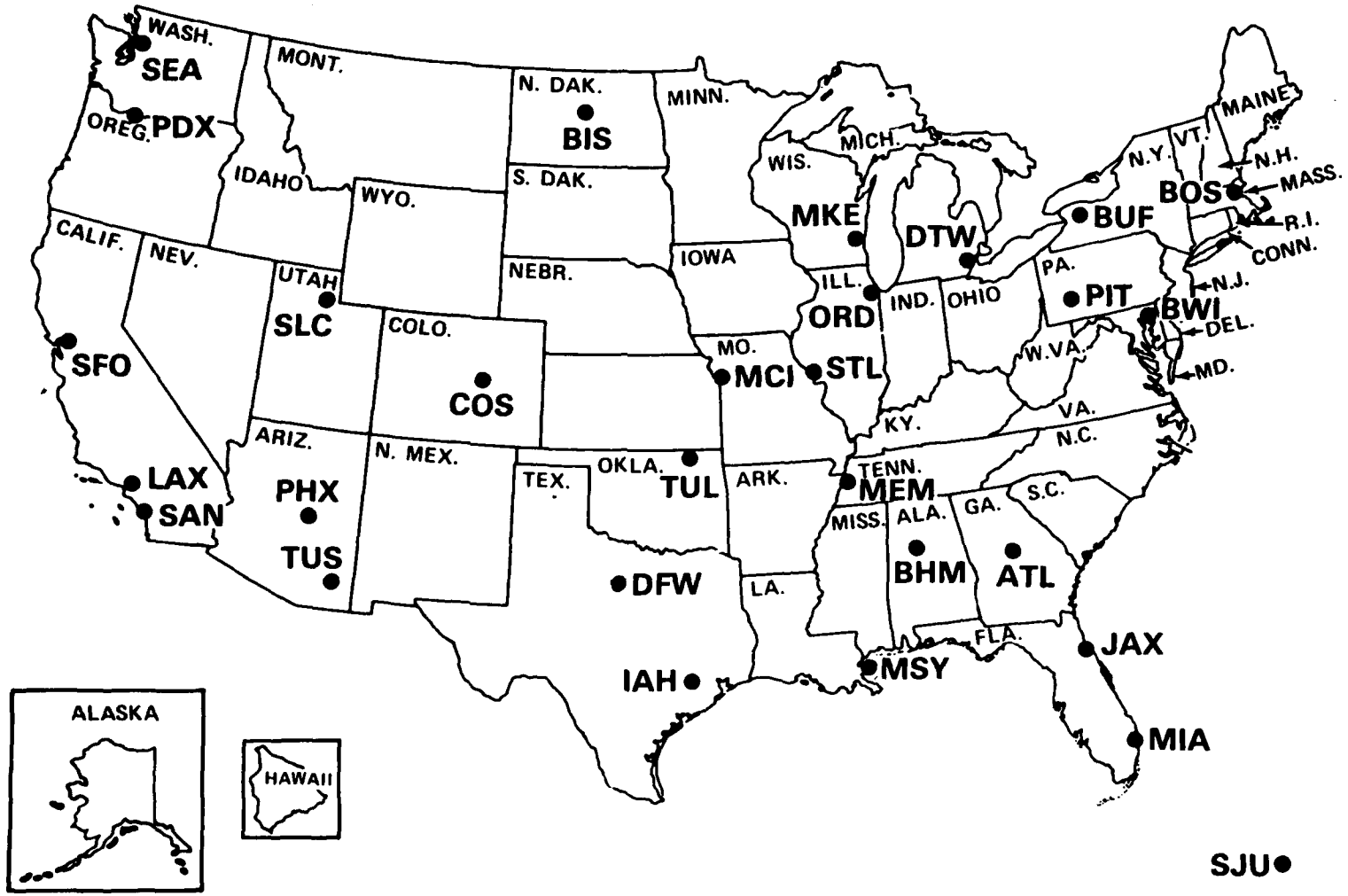


Exhibit 10

As of: 12-31-87

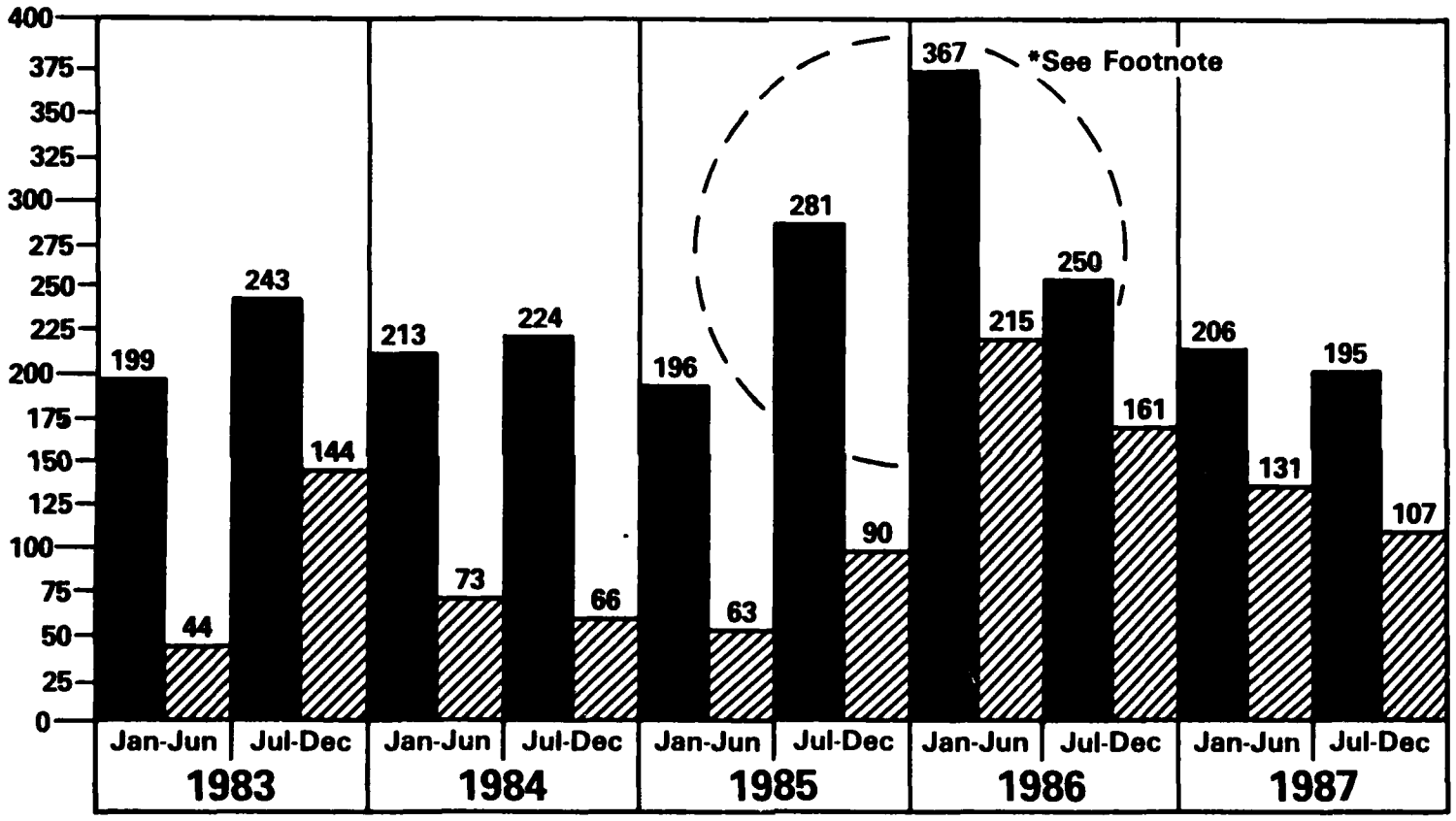
FAA SPONSORED EXPLOSIVE DETECTION K9 TEAMS LOCATIONS



Exhibit

As of: 12-31-87

Bomb Threats Against U.S. Aircraft and U.S. Airports 1983 Thru 1987



Key

Threats Against Aircraft

Threats Against Airports

*An Analysis of the Period From June 1, 1985, Through April 30, 1986, Reveals That This Statistical "Spike" May Be Attributed, in Part, to Extensive Publicity Given Aviation Explosive Incidents.

Exhibit 11

As of: 12-31-87

Civil Aviation Security
Hazardous Materials Inspections/Surveillance

	1981	1982	1983	1984	1985	1986	1987
Air Carrier Inspections	5,501	6,418	3,942	3,701	3,863	3,441	5,001
Freight Forwarder Inspections	308	587	169	312	188	207	377
Total Packages Inspected	23,350	18,758	11,270	9,660	9,614	11,048	14,644
Locations Inspected	541	457	386	327	513	407	386
Violations	504	702	340	407	353	400	484
Full-Time Inspectors	10	10	10	11	10	11	11
Part-Time Inspectors	155	138	102	102	102	190	192

Exhibit 12

As of: 12-31-87

Civil Aviation Security
Hazardous Materials Compliance and Enforcement Penalty Actions

	1980	1981	1982	1983	1984	1985	1986	1987
*Criminal Cases Initiated	3	2	3	2	2	1	0	1
Criminal Cases Completed	1	1	1	1	2	1	0	1
Total Fines/Years	25,000	25,000	5,000	20,000	6,000	1,000	0	5 Yrs.**
Civil Penalty Cases Initiated	99	170	138	131	78	73	85	112
Civil Penalty Cases Completed	13	97	70	63	58	46	55	45
Total Fines Collected	30,500	182,000	99,500	140,250	167,935	291,100	350,050	357,600

* If criminal cases cannot be supported by local U.S. attorney's, they are converted to civil penalty cases.
** Confinement.

Exhibit 13

As of: 12-31-87

Geographic Distribution of International Terrorist Incidents 1987

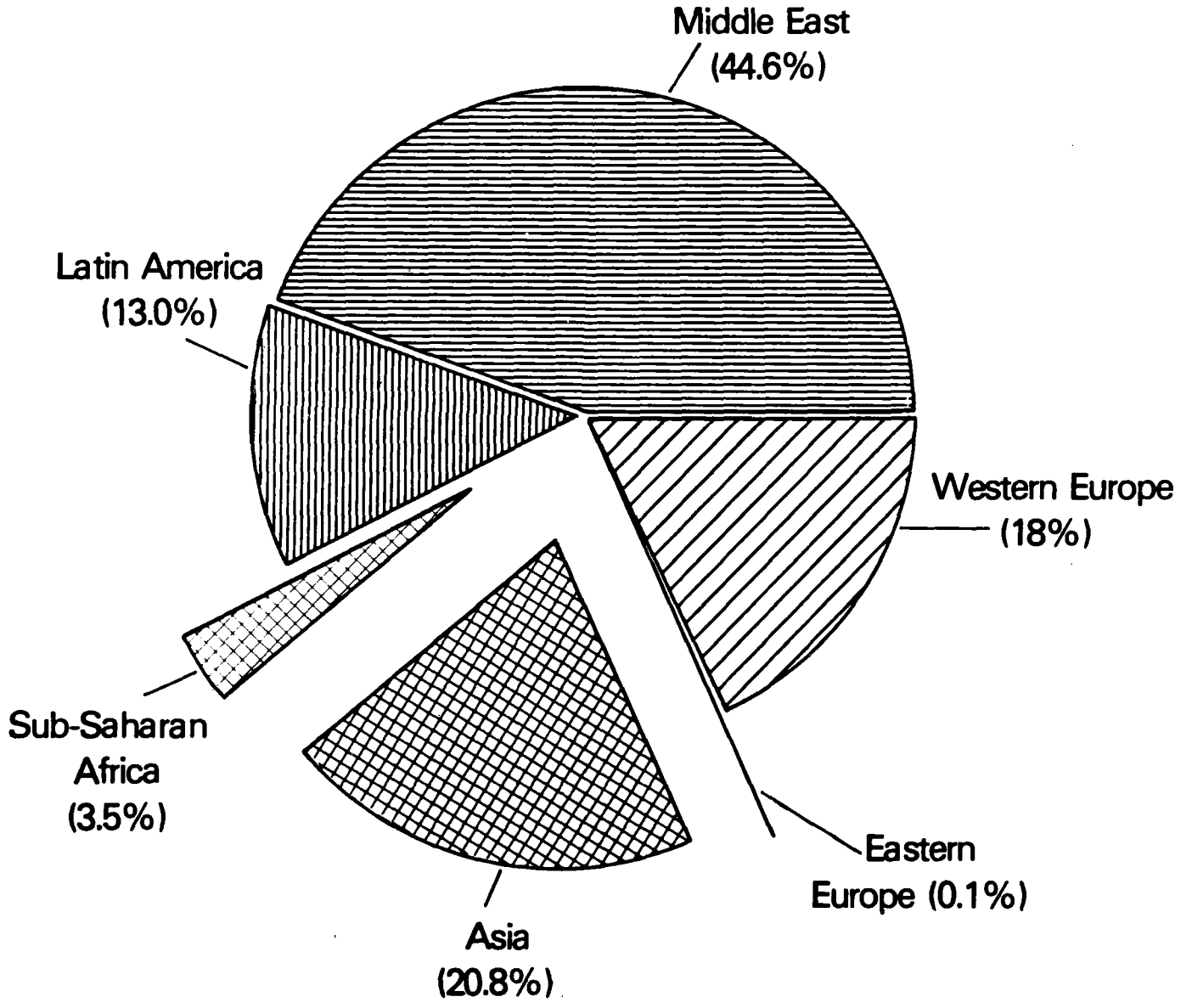


EXHIBIT 14

As of: 12-31-87


DATE
ILMED
8